PTO/SB/01 (08-03)
Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

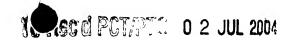
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number, Attorney Docket Number SHI 19.251 DECLARATION FOR UTILITY OR

DESIGN	First Named Inventor	Ralph	C. LONGSWORTH				
PATENT APPLICATION		COMPLETE IF	KNOWN				
(37 CFR 1.63)	Application Number						
Declaration Declaration	Filing Date						
Submitted OR Submitted after Initial With Initial Filing (surcharge	Art Unit						
Filing (37 ČFR 1.16 (e)) required)	Examiner Name	Examiner Name					
I hereby declare that:							
Each inventor's residence, mailing address, and citizenship	are as stated below next	to their name.					
I believe the inventor(s) named below to be the original and	first inventor(s) of the su	bject matter w	nich is claimed and for				
which a patent is sought on the invention entitled:							
PULSE TUBE COOLING BY CIRCULATION OF BU	IFFER GAS						
/Title of	f the Invention)						
the specification of which	uie iriveriuorij						
is attached hereto							
_							
OR							
was filed on (MM/DD/YYYY)	as United States	Application N	umber or PCT International				
Analization Number			(if and line bla)				
Application Number and was amended on (MM/DD/YYYY) (if applicable).							
I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.							
I acknowledge the duty to disclose information which is r continuation-in-part applications, material information which							
and the national or PCT international filing date of the contin	nuation-in-part application	າ.					
I hereby claim foreign priority benefits under 35 U.S.C. 1 inventor's or plant breeder's rights certificate(s), or 365(a) or 365(a) or 365(b).	19(a)-(d) or (f), or 365(t	o) of any foreign	n application(s) for patent,				
country other than the United States of America, listed belo	w and have also identific	ed below, by ch	necking the box, any foreign				
application for patent, inventor's or plant breeder's rights ce before that of the application on which priority is claimed.	rtificate(s), or any PCT i	nternational ap	plication having a filing date				
Prior Foreign Application Foreign F	iling Date F	riority	Certified Copy Attached?				
Country 1 (session	D/YYYY) Not	Claimed	Yes No				
Number(s) Country (MM/DI							
Number(s) Country (MM/DL			🖳 🔠				
Number(s) Country (MM/DL							
Number(s) Country (MM/DL							
Number(s) Country (MM/DL							

[Page 1 of 2]

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



PTO/SB/01 (08-03)

Approved for use through 07/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION — Utility or Design Patent Application

Name						-
Address			 _			
City			State			ZIP
Country		Telephone		Fax	•	<u> </u>
I hereby declare that a and belief are believe statements and the lik false statements may j	ed to be true; and i e so made are punisl	further that these hable by fine or imp	statement prisonmen	s were made t, or both, unde	with the known 18 U.S.C.	owledge that willf
NAME OF SOLE OR I	FIRST INVENTOR:		A petition	has been filed:	for this unsig	ned inventor
Given Name (first and middle [if any]) Ralph C.			Family Name or Surname LONGSWORTH			
Inventor's Signature	sh C Lon	quorth	i i	· · · · · · · · · · · · · · · · · · ·		Date 6/17/8
Residence: City Allentown	sh C Lon State PA	PA	Cour	ntry d States of Ar		enship ted States of Am
Mailing Address 1833 Vultee Stree	t				•	
City	State PA			ZIP 18103		Country United States of
Allentown				A petition ha	s been filed	for this unsigned in
•	NVENTOR:		_ I L	Eamily No.	me	
Allentown			<u> </u>	Family Na or Surnam		
Allentown NAME OF SECOND II Given Name						Date
Allentown NAME OF SECOND II Given Name (first and middle [if any Inventor's			Cour	or Surnam	e	Date
Allentown NAME OF SECOND II Given Name (first and middle [if any Inventor's Signature	/1)		Cour	or Surnam	e	



PTO/SB/02A (08-03)
Approved for use through 07/31/2006. OMB 0551-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Under the Paperwork ADDITIONAL INVENTOR(S)

DECLARATION		Supplemental Sheet Page of					
Name of Additional Joint Inventor, if any: A petition has been filed for this unsigned inventor							
Given Name (first and middle (if any)	Family Name or Surname						
())							
Inventor's Signature	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			Date		
Residence: City	State		Count	try	Citizenship		
Mailing Address		···					
Mailing Address	_			•			
City	State			Zip	Country		
Name of Additional Joint Inventor, if any:		A petition has been filed for this unsigned inventor					
Given Name (first and middle (if any)			Family Name or Surname				
Inventor's Signature		Date					
Residence: City	State		(Country		Citizenship	
Mailing Address							
Mailing Address							
City	State	Zip		Zip	Country		
Name of Additional Joint Inventor, if any:		A petition has been filed for this unsigned inventor					
Given Name (first and middle (if any)			Family Name or Surname				
Inventor's Signature		Date					
Residence: City	State			Country		Citizenship	
Mailing Address							
Mailing Address		<u> </u>					
City	. State			Zip	Country		

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.